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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/037,941

Filing Date: January 03, 2002

Appellant(s): CUPP ET AL.

Robert M. Barrett
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 6/23/2008 appealing from the Office action
mailed 1/29/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

5431927	HAND et al.	7/1995
EP0645095B1	COLLINGS et al.	9/1994
6025004	SPECK et al.	2/2000

4259361	PROCTER	3/1981
5000940	STAPLES et al.	3/1991
5407661	SIMONE et al.	4/1995

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-20, 25-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hand et al. (US Patent 5431927) and Collings et al. (EP 0645095) in view of Speck et al. (US Patent 6025004) and Procter (US Patent 4259361).

Hand et al. teach a pet food product made from fiber, containing protein and carbohydrate having a thickness 0.32-0.70 inch (col. 5, line 10), a length 0.32-0.75" (col. 7, lines 22-23). The width is not given and neither is the Office equipped to manufacture prior art products and compare physical dimensions or characteristics that applicant has chosen to describe his product with, with the claimed invention. Col. 8, line 17 teaches that the thickness is 0.5 inch. The product is obtained after an extrusion process and therefore it would be inherent that the protein would have been denatured

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and the carbohydrate gelatinized. The fiber content is given as between 10-25%. See col. 5. While the fact that little or no humectant is added to produce hard textured pet food products is well known in prior art, this patented product also does not disclose the addition of a humectant. The product is used for oral care, that reduces teeth plaque, stain and tartar. The patent teaches a product with a density between 10 to 35 lbs/cu' (see col. 4, line 44). At col. 5, lines 5-12, patentees state:

While the striated product of the present invention can be any of several shapes, the shapes which are most desirable for mechanical cleaning efficacy include a cylindrical or disc shape. Disc-shaped pellets having thickness of about 0.32 to 0.70 inch, a diameter of about 0.7 to about 1.2 inch are most preferred in the practice of the present invention. (emphasis added).

The patent does not teach that its product is unstriated. However, the patent teaches that apart from its expanded striated product obtained "by creating conditions during the extrusion of the product resembling laminar flow", and by maintaining the inner walls of the passageway at a coefficient of friction no greater than 0.2", i.e. "conditions resembling laminar flow", that produces an extrudate having striated structural matrix (col. 3, line 55 to col. 4, line 3), it is possible to produce, in contrast, fiber containing products extruded under conditions of *turbulent flow* with the fibrous ingredients randomly distributed in the food product (col. 3, lines 48-50). See col. 2, lines 44-56, that shows the contrast. See also col. 4, line 15+, which clearly delineates conditions for such a laminar flow process:

Typically, a condition resembling laminar flow is obtained in the extrudate of the present invention by passing the

plasticized food ingredient mixture, heated to a temperature of about 240.degree. to about 320.degree. F. and preferably about 270.degree. to 300.degree. F. at a relatively low velocity, e.g. about 12 to about 20 in./sec., preferably about 13 to about 17 in./sec. and most preferably about 14 to about 16 in./sec., through a discharge passageway having a length of about 2 to about 4 inches and a diameter of at least about 0.35 inches and preferably about 0.5 to about 0.75 inches, the inner walls of the passageway being coated with a layer of polytetrafluoroethylene.

Logically therefore, extruding under conditions of turbulent flow, and using a coefficient of friction for the discharge passageway, which is way greater than 0.2, one of ordinary skill in the art would have reasonably expected a product that is not striated, and therefore of a different texture. Thus, Hand et al. teach the conditions necessary to make both the unstriated and striated pet food product, but exemplify only the striated product. Therefore, while the ingredients are the same as claimed herein, the dimensions are comparable to those claimed, and are clearly illustrated as being of a size and shape so as to obtain the "most desirable" mechanical cleaning efficiency, the density is not the same and the product is striated.

Such an unstriated product described by Hand et al. is shown by Collings et al., wherein this reference teaches no humectant and teaches all the other limitations but not the dimensions of the product as claimed, or its density and does not subject the product with any of the conditions during extrusion as shown for the laminar product. Collings et al. disclose an extruded dog treat food product which comprises a structural matrix containing proteins, starches, carbohydrates and fiber such as cellulose (pg. 3). A typical cellulose fiber content is shown to be in the range of 2-10%. The mixture

containing the starch and protein is gelatinized ("plasticized"), due to the high-temperatures of the extrusion process disclosed, and thus the end product contains denatured protein, as well as gelatinized carbohydrate. It is noted that the extrusion is done with a "heatable extruder having one or more helical transfer screws axially rotatable...., with a restricted extrusion discharge passageway" (pg. 3, lines 38-52), serving to cook and plasticize the mixture, thus providing a non-laminar flow of the mixture through the chamber(s). Following extrusion, the pet food thus produced has a final moisture level of about 6-10% (top of page 4). Further, Collings et al. does not teach the use of a humectant. At mid-page 2, reference is made to a then copending application, 07/899,534, now US Patent 5431927 to Hand et al. (applied here), directed to a striated pet food, and at lines 30-40 of page 2, it is stated that, in contrast, Collings et al. are disclosing the production of a non-striated product, i.e. "a product that was not in a stratified condition."

When it was attempted to adapt the composition and process conditions of SN 07/889,534 to the manufacture of a dog treat food product, that is, a product that was not in a stratified condition, it was determined that the extruded, expanded dog treat product did not have sufficient structural integrity to withstand breakage due to drop impact, i.e., the product could not satisfactorily withstand the impacting internal pressure when the container in which the dog treat product was packaged was dropped during handling and use.

However, at page 4, line 1+, patentees of the EP patent disclose the solution to this problem thus:

In preparing the final dog treat food product, the final moisture content of the expanded extrudate piece, is an important feature

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of the present invention. To obtain an acceptable breakage resistant product, the moisture content of the final product is adjusted to the range of about 6 to about 10%. Preferably the moisture content is reduced to about 7 to about 9% by weight. At moisture levels below 6% the product becomes extremely fragile. At moisture levels above about 10%, the risk of mould growth significantly increases.

In the step of drying the extruded food products to achieve the desired final moisture level, the relationship between the drying temperature and the length of time for the drying step, is a critical feature in the manufacture of the dog treat product of the present invention. Thus, the drying process used to obtain the final moisture level in the dog treat product requires extremely careful control of the temperature and humidity and must be done relatively slowly in order to produce a product of satisfactory breakage resistance. If the drying is carried out too quickly, i.e., at too high a temperature, e.g. above about 250°F (121°C), the dried pieces or chips of extruded product will be fragile and exhibit high breakage rates. Drying carried out too quickly, will "case harden" the extruded chips creating internal microfissures which render the product vulnerable to fragmentation along the microfissure lines.

As can be seen from this discussion, while the patent to Hand et al. teaches the principles of obtaining the different textures, both striated and unstriated, and exemplifies one (striated), Collings et al. exemplify the other. Furthermore, Collings et al. teach a product that resists breakage, an advantage that would be seen as beneficial by one of ordinary skill in the art, in the use of an extruded dry pet food product that has sufficient structural integrity, to be used to effectively remove tartar, stain and plaque.

Collings et al. do not teach the density of their product. Nevertheless, Speck et al. establish that it was known in the art at the time the invention was made to adapt an extruder's flow characteristics in order to control the density of kibbles, and therefore to optimize such parameters so as to obtain a density within the range shown by Hand et

al. and as claimed herein, would have been within the realm of the skilled person, since Hand et al. shows that the density was for a product that had a benefit: improved oral care. Speck et al. also disclose that the bulk density can be controlled as well, the extruder be adjusted to yield automatically a predetermined bulk density. See col. 12, and col. 4, lines 50-55. With respect to claims 28-33, since Collings et al. teach non-laminar flow extrusion, then it follows that the inner cellular structure, circular pores and sponge-like structure would result. Compare the extrusion conditions at col. 4 in '927 and pages 3-4 in '095, although the same extruders are used by both patents.

As for the dimensions of the kibble, while Hand et al. disclose the length and thickness which fall within the claimed dimensions and discloses *any suitable shape such as cylindrical or disc-shaped kibbles*, Procter teaches a kibble size not greater than "about ½ inch (average of measurements in the three dimensions)". Procter is wholly drawn to preparing dehydrated feedstuffs for animals (col 2, lines 43-45) in the form of kibbles. Therefore, applicant's claim to an extruded kibble, whose size in 3 dimensions, is that which conforms to such a prior art disclosure:

(length) 15mm= 0.59"

(width) 13.5mm= 0.53"

(thickness) 12mm= 0.47"

and was already known in prior art at the time the invention was made. Compare this with the Hand et al disclosure, a thickness of about 0.32 to 0.70 inch, a diameter of about 0.7 to about 1.2 inch as the most preferred embodiment. Furthermore, it would have been obvious to one of ordinary skill in the art who is looking to use the kibbled

product for cleaning tartar, plaque and stain, that the size of a kibble should be optimized based on teeth cleaning benefits and bite size of the pet, since after all Hand et al. teach their shapes which are most desirable for mechanical cleaning efficacy, and based on this, it would not require more than ordinary skill in the art to base the size on such a need too. Since it is common knowledge that all pets do not have the same bite size, then it would have been obvious to optimize such a kibble dimension within those disclosed by the above references, as necessary for the breed size or age (i.e. puppy, etc.) of the pet's bite size, and with the motivation to provide the tartar reducing function. Note too, that in the absence of any claim herein reciting any particular shape, if the shape were to be adapted to a bone-shape-like product (or "cylindrical" as in Hand et al.), which is the most common shape for pet food chew products, then it would follow that the length would be more than the width. Since the method of making the pet food is rendered obvious and the pet food is for feeding a pet, then the method of claim 20 is also rendered obvious, since the discovery of a result that would flow naturally from teachings of prior art are not patentable. *In re Libby*, 118 USPQ 94 (CCPA 1958).

2. Claims 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hand et al. (US Patent 5431927) and Collings et al. (EP 0645095) in view of Speck et al. (US Patent 6025004) and Procter (US Patent 4259361) and further in view of Staples et al. (US Patent 5000490) or Simone et al. (US Patent 5407661).

The primary references are as described above. Claims 21-24 recite a mixture of different sized kibbles, read on having a mixture of kibbles having striated *and* non-

striated appearance (note the “at least one kibble...” language), and claims 21-22 are so recited as to include a product that has a humectant. Since the prior art applied here teach both striated and unstriated appearances, both without humectant, and the size of kibbles can be optimized to about the disclosed sizes by Procter and Hand et al., and while Staples et al. or Simone et al. also disclose a product for oral care that contains a humectant, barring any evidence to the contrary, it would have been obvious to combine a variety of sizes, appearances or textures, include humectants or not, since all of the products would have reasonably been expected to provide the same function and benefit concerning the pet’s oral care, since they are all drawn to the oral care of pets. Note the ratio of a first any-sized kibble to a second any-sized kibble, 20-80%, which lends evidence to the position here, that there appears to be no criticality in either the variation of size or amount, and that a mixture such as the one claimed, provides a variety of sizes to the pet, since there is no assertion in the specification that doing so produced any patentable result. As for the variation of size, note that Hand et al. states that "the strand is cut into 0.32 to 0.75 inch lengths to form pellets" and thus it would have been obvious to one of ordinary skill in the art to have provided the pet food of Collings et al. with a variety of sizes within the stated range as recommended by Hand et al.. The same applies to other dimensions also, when prior art is considered as a whole, i.e. as applied above, because when a range of dimensions is rendered obvious from prior art, to cut an extrudate to any desired length within that range, is not inventive. As already stated in the rejection at paragraph 1, it is well known in the art to

produce a variety of kibble sizes for pets depending on their bite-size and/or breed size, which is the way they are produced, packaged and marketed.

(10) Response to Argument

Appellant states at page 12, last paragraph of the Brief, that Hand, Collings and Procter do not teach the claimed density of the unstriated pet food product and that Speck fails to disclose or suggest any density of a pet food product.

At page 13, appellant states that density is an important factor and that the unstriated product produced from a manufacture using turbulent flow has a texture that is different from previous foods and is also an important factor. Appellant has argued that Speck fails to disclose or support any density of a pet food as claimed, as well as stating that neither Hand nor Proctor nor Collings teaches the claimed density of an unstriated pet food product. In response, there is no requirement in a 35 USC 103 rejection that a single reference show all the limitations claimed herein as in instant claims 1-33. For instance, Hand discloses a pet food product with a density between 10 to about 33 lb/ft³ (col. 6, line 1). Hand et al. is to a pet food product also. Typically, pet foods are sold by weight, however, bulk density is an important factor that is considered during manufacture because it determines the volume of the packaging or container required to market the product (i.e. density multiplied by volume is mass). Typically also, pet food products are generally optimized within a largely used range by market products. For instance, applicant claims 16.8 to 20 lbs/cu. ft, and Hand discloses 10 to 33 lb/cu. ft, while Speck et al. teaches how to extrude kibbles in such a way as to not

only control the bulk density of a kibbled product but to maintain the bulk density at a predetermined bulk density during extrusion. Based on such, to optimize the density within Hand's disclosed range, given Speck et al.'s disclosure, cannot be said to be inventive, and applicant has failed to show why this is so in view of prior art disclosures.

Also at page 13, appellant disagrees with the use of Procter establishing that a kibble size "not greater than about $\frac{1}{2}$ inch (average measurements in the three dimensions)" was also known in the art at the time the invention was made. Appellant states that his kibble size of average 0.53 inches in three dimension is greater than that of Procter's size. Additionally, appellant states that Procter's "*about $\frac{1}{2}$ inch*" should be read as "*1/2 inch*" without consideration of the "*about*". Appellant goes on to present an extensive discussion of Proctor's use of "*about*" at page 14 of the Brief and urges that the skilled artisan would interpret this as $\frac{1}{2}$ inch and not "*about*" $\frac{1}{2}$ inch. Even if appellant's argument is considered and "*about*" is simply ignored, and taking into consideration Hand et al.'s disclosure of thickness and diameter for patentee's kibble (see the rejection itself), and further, taking into consideration a well known fact that kibble dimension is primarily based on bite size of the pet (which is reflected by the fact that pet food products are sold by pet size), and the fact that this rejection is under 35 USC 103, it is not clear how applicant's dimension of a kibble, which is 0.53" on an average, is so different from and unobvious compared to 0.5", also on an average, that this difference of 0.03" renders this invention patentable. The manufacture of a predetermined, particularly-sized kibble within the measurements given by Hand and even Procter's *about $\frac{1}{2}$ "*, is well within the skill of the artisan, given the fact that 1)

Speck et al. provides evidence that an extruder can have the extruder knife so positioned so as to cut the extrudate to a desired size kibble (col. 4, lines 48-55) and 2) the size of a kibble is based on the size of a dog/the bite size of the dog.

At page 14, appellant refers to the Affadavit (Exhibit I) submitted, the tests conducted on his inventive product, and states that one of ordinary skill in the art would not be motivated to combine Hand and Collings. The Office action has been set out *in detail*, and appellant's statement that there is no reason why the skilled artisan would combine the cited references to arrive at the "present claims" is strenuously disagreed with in view of the reasons given for making the combination of references.

Hand discloses both forms: striated and unstriated and teaches the striated product. Collings teaches the unstriated product stating clearly the drawbacks of the prior art unstriated product, making specific reference to Hand et al.'s patent, and teaches how this drawback can be overcome. See the rejection itself and also page 4, line 1+ of the EP patent.

As for the Affidavit, which has been considered in detail at pages 13-15 of the Final Office action as is incorporated by reference herein, appellant now states at page 16 of the Brief, in response to the Final Office action (pages 13-15), that because Hand discloses that products extruded under conditions of turbulent flow crumbles when chewed by the animal, then this actually aids in demonstrating patentability of the instant claims. Appellant appears to have overlooked the fact that this reference has been used in combination with Collings' patent which teaches modifying the very same non-laminar flow product disclosed by Hand obtained from turbulent flow. With regard

to Appellant's discussion of "standard dry dog food", appellant's reference to the fact that Hand disclosing "turbulent flow is the normal flow condition.." provides a nexus between the claimed product and the "standard" dog food products because appellant states that they must have been produced by turbulent flow cannot be held as a basis to allow these claims. Such a conjecture is unacceptable because there is nothing on record to show how and why 'Alpo Complete' and 'Purina Chow' were chosen as "standard" dry foods OR that they were prepared using the normal flow condition, i.e. turbulent flow. Again, the review of the Affidavit pages 13-15 of the Final Office action is referenced here. It is not even clear whether such "standard" dry foods used for comparison were chosen because they were related to their teeth-cleaning prowess.

At pages 18-20, appellant's discussion attempts to show that all of the references are either inapplicable, teach away from each other or are not drawn to extrusion of a pet food with reducing tartar. Appellant's characterization of Collings' patent is disagreed with. Appellant states that Collings' reference to the Hands application is a teaching away from US Patent 5431927. This is erroneous. The patent to Hand is being referred to by Collings to show that prior art (Hand) was aware of both laminar flow and non-laminar products at the time the invention was made, but Collings also establishes that the non-laminar flow product did not have structural integrity. See also Hand at col. 4, lines 37-40. Collings et al. improves the structural integrity by modifying the turbulent flow product of prior art as described in his patent, and provides the structural integrity that was lacking in such prior art products.

Procter shows a kibble size that is similar to the claimed size and establishes that the Appellant was not the first to invent kibble size. Furthermore, to cut an extrudate in lengths anywhere in the range shown by Hand requires no more than ordinary skill.

Speck shows that bulk density can be controlled with respect to a pet food product and therefore to optimize within the density range shown by Hand (10 to 35 cu. ft) would have been *prima facie* obvious.

Note that all patents are drawn to pet food products. As for Appellant's allegation that the examiner has improperly applied hindsight, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

On page 21, appellant states that the cited references fail to disclose different sized kibbles. Hand discloses a range of lengths 0.32-0.75" in order to form pieces or pellets (col. 5, line 62) in shapes that are cylindrical or disc-shaped (col. 5, line 9). Furthermore, it is notoriously well-known in this art that kibble size varies by bite-size and breed size, which is how pet food products are produced, packaged and marketed. Therefore, to prepare kibbles of various sizes would have been well within the realm of ordinary skill.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

It is to be noted that this application is a C-I-P of parent application 09/483328, which is a continuation-in-part of 09/154646, claims of which were appealed and a decision rendered on 9/10/2004.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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